

WO 03/086581

PCT/DK03/00254

10

Claims

1. A filter bag (1;11;21) for a filter device, said filter bag comprising a tubular, flexible, air-penetrable filter body (6;16;26) provided with a suspension arrangement at an unfolded end thereof, said suspension arrangement comprising a rigid ring element (7;17;27) annularly secured to said unfolded end of the filter body, **characterised in** that the ring element (7;17;27) is arranged at least partially at an interior part of the filter body (6;16;26).
5
- 10 2. A filter bag according to claim 1, **characterised in** that the ring element (7;17) is annularly provided with holes (8;18), and that the ring element (7;17) and the filter body (6;16) are sewn together.
- 15 3. A filter bag according to claim 1, **characterised in** that the ring element and the filter body are glued together.
4. A filter bag according to claim 1, **characterised in** that the ring element and the filter body are welded together.
- 20 5. A filter bag according to any one of claims 1-4, **characterised in** that the ring element (27) is moulded.
- 25 6. A filter bag according to claim 5, **characterised in** that the filter body (26) is secured to the ring element (27) during the moulding process of the ring element (27).
7. A filter bag according to claim 6, **characterised in** that the ring element material protrudes at least partially into the filter body material.
- 30 8. A filter bag according to any one of claims 1-7, **characterised in** that the ring element (7;17;27) is provided with outwardly protruding members (10;20;30) for suspending the filter bag (1;11;21) at discrete points.

WO 03/086581

PCT/DK03/00254

11

9. A filter bag according to any one of claims 1-8, **characterised in** that the ring element (7;17;27) is made of metal.

10. A filter bag according to any one of claims 1-8, **characterised in** that the ring element (7;17;27) is made of a plastics material.

11. A filter device comprising a housing with a dust chamber (4) and a clean-air chamber (5) that are separated by an partition wall (3) suspending at least one filter bag (1;11;21) that extends through an opening (2) provided in the partition wall (3) with a main part of the filter body (6;16;26) located in the dust chamber (4), **characterised in** that the filter bag (1;11;21) is arranged according to any one of claims 1-11, and that the ring element (7;17;27) of the filter bag (1;11;21) extends at least partially into the opening (2) in the partition wall (3).

12. A filter device according to claim 11, **characterised in** that the ring element (7;17;27) is provided with outwardly protruding members (10;20;30) that abut on the partition wall (3) at discrete points.

13. A filter device according to claim 11 or 12, **characterised in** that the filter body (6) extends through the opening (2) in the partition wall (3) and forms a sealing between the partition wall (3) and the ring element (7).

14. A filter according to claim 13, **characterised in** that the filter body (6) is substantially uncompressed in the area between the ring element (7) and the partition wall (3).

15. A filter device according to claim 11 or 12, **characterised in** that only the ring element (17;27) of the filter bag (11;21) extends through the opening (2) in the partition wall (3), whereas the filter body (16;26) ends at a distance from the partition wall (3).

WO 03/086581

PCT/DK03/00254

12

16. A filter device according to claim 15, **characterised in** that the ring element (27) sealingly engages the opening (2) in the partition wall (3).

17. A filter device according to claim 15, **characterised in** that a sealing member (12) is arranged between the ring element (17) and the opening (2) in the partition wall (3).

18. A filter device according to any one of claims 11-17, **characterised in** that the filter device is provided with CIP (cleaning-in-place) means.

10

19. A filter device according to claim 18, **characterised in** that the CIP means comprises at least one nozzle provided in the dust chamber (4).

15